

Frequently Asked Questions Niagara Falls Storage Site Lewiston, New York

General Site Questions

1. Where is the Niagara Falls Storage Site (NFSS)?

The Niagara Falls Storage Site is located at 1397 Pletcher Road in the Township of Lewiston (Niagara County) in northwestern New York, about 19 miles northwest of Buffalo, 10 miles north of the City of Niagara Falls. NFSS is located on part of the former Lake Ontario Ordnance Works, a site developed for producing explosives during World War II.

2. How big is it?

The Niagara Falls Storage Site consists of 191 acres that is owned by the Federal government and located within the original 7500-acre Lake Ontario Ordnance Works boundary. The 10-acre waste containment structure that contains K-65 residues is located on the site.

3. What is on the site and what is the status of the cleanup?

In 1944, the NFSS was used by the Manhattan Engineer District for storing low-level radioactive residues and wastes from uranium ore processing conducted during the development of the atomic bomb. Until the late 1950's, additional radioactive residues and wastes were brought to the site for storage. Two buildings remain on the 191-acre site.

Building 401 contains some fixed, low-level radioactive contamination and may contain chemical contamination. It was remediated for asbestos contamination in 2003. Building 401 was used as the powerhouse for the TNT plant at the Lake Ontario Ordnance Works in 1943. It was only in operation for a year until TNT was in excess production. From 1953-59 and 1965-71, the building was used to manufacture Boron-10, which is not radioactive. Building 401 is currently structurally sound and has been secured to prevent trespassing.

Building 403 was a fire system building that had a hose-drying tower. It was later used as a radiological laboratory. Building 403 was decontaminated as a preventative maintenance measure in 1998 and was demolished in August 2000.

In 1952, drums containing high activity radioactive residues were stored in a silo, which has since been demolished. The Department of Energy relocated the residues in the 1980's and they were placed in an engineered waste containment structure that is about 10-acres in size. The containment structure was constructed in two phases in 1986 and 1991. There are about 255,000 cubic yards of material stored at the site, of which only 3,925 cubic yards are K-65 high activity residue.

4. Why was the entire site given the FUSRAP designation? Is it because the remaining 181 acres has some degree of radiological contamination?

It's because historical information indicates that radioactive storage may have occurred in this area. We haven't found radioactive contamination on all of it, but we are investigating all of it.

5. Who owns the NFSS property?

NFSS is currently United States Government property.

6. What is FUSRAP?

FUSRAP or the Formerly Utilized Sites Remedial Action Program was initiated in 1974 to identify, investigate and clean up or control sites that were part of the Nation's early atomic energy program. Activities at these sites were performed in the 1940's, 1950's and 1960's by the Manhattan Engineer District (MED) or under the Atomic Energy Commission (AEC) (MED from 1944-1946; AEC from 1947-1975). Both the MED and the AEC were predecessors to the U.S. Department of Energy (DOE). In 1997, Congress transferred the responsibility for the program from the DOE to the U.S. Army Corps of Engineers (USACE).

The goal of FUSRAP is to clean up or contain the MED- or AEC-related radioactive material so that the sites may be released for appropriate future use and to ensure the protection of human health and the environment. For more information on FUSRAP, check the Buffalo District FUSRAP fact sheet at <http://www.lrb.usace.army.mil/fusrap/facts/fusrapfs.pdf>.

7. How can I get more information about the NFSS?

The U.S. Army Corps of Engineers welcomes inquiries about the NFSS. Call us toll-free at 1-800-833-6390 with your questions and to be included on the site's mailing list, which will inform you about upcoming public meetings. By mail, contact us at: U.S. Army Corps of Engineers, FUSRAP Public Information Center, 1776 Niagara St., Buffalo, NY 14207-3199. Also, reports and documents in the Administrative Record may be viewed at the Lewiston Public Library, 305 South Eighth Street, Lewiston, NY; Youngstown Free Library, 240 Lockport St., Youngstown, NY; and the Buffalo District office of the U.S. Army Corps of Engineers at 1776 Niagara St., Buffalo, NY).

8. How is the investigation of NFSS funded?

The Niagara Falls Storage Site is being funded through the Formerly Utilized Sites Remedial Action Program (FUSRAP). The pipeline excavation and removal work at the Lake Ontario Ordnance Works has a different funding source, the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS).

9. Should the Niagara Falls Storage Site be remediated? I'm a little leery about the site even though the authorities are saying everything is ok.

The U.S. Army Corps of Engineers is conducting a thorough investigation. Congress has asked USACE to look at both chemical and radiological contamination. As the years progress, analytical techniques improve so smaller and smaller concentrations can be measured. Once cleanup of the site is complete, no one will have to worry about raising their child in the Lewiston area.

10. I appreciate the thoroughness and the caution that the Corps is taking, but it has been 50 years.

The USACE has been investigating this site since October 1997. We understand your frustration, but it takes time to thoroughly assess the extent of contamination.

11. When will the site be cleaned up?

We are anticipating that we would be beginning the cleanup in 2008, and finishing the cleanup in 2011.

History/Sampling Questions

1. What was the role of the U.S. Department of Energy (DOE) at the site?

The Department of Energy operated the Niagara Falls Storage Site before 1997 at which time the Corps of Engineers was given the FUSRAP. The DOE constructed the waste containment structure in the 1980's and installed an interim cap over it that contains three feet of clay over the materials, one foot of fill, and 6 inches of topsoil. The thickness of the cap was calculated based on the percolation rate of radon, such that by the time radon percolates through the cap it is harmless.

A long-term cap was proposed as a final remedy by DOE. USEPA objected to the long-term cap and the National Academy of Science was tasked to do a study. The National Academy of Science Report was prepared in 1995 to address the safety of the high activity residues at the site. The report emphasized that the present (interim) cap is considered safe for 25-50 years (i.e. 25 year life is 2011). The report looked at many issues and also noted a number of unknowns such as incomplete knowledge of local geology, lack of information on potential effects of pumping by neighboring landfills, and no information on the behavior of the residues in the presence of other chemicals (e.g. sulfates of Ra-226 and Th-230).

The Corps has a remedial investigation ongoing that will evaluate both radioactive wastes and chemical contamination that exist on-site.

2. What process is the Corps using to evaluate the site?

The Corps of Engineers follows the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to evaluate the NFSS. This process involves several steps such as a Remedial Investigation / Feasibility Study (RI/FS) phase and development of a Proposed Plan and Record of Decision before doing site cleanup. The remedial investigation will involve: identifying on-site contaminants, determining the extent of contamination, determining risk to people and the environment, and determining how long chemicals will persist in the environment and where they may move within the environment. The feasibility study will identify possible technologies for cleaning up the site and evaluate each technology for: protection of human health, compliance with regulations, long and short term effectiveness, reductions of toxicity/mobility, cost, and acceptance by the state and the public. The proposed final remedy is specified in the proposed plan. The proposed plan is then open for public review and comment.

The tasks needed at the site include: performing the RI/FS, remediating the Waste Containment Structure, cleaning up the remaining surface soil that is contaminated (radiological), determining whether there is on-site chemical contamination, and if so, cleaning up, and decontaminating and demolishing contaminated buildings. The Corps has many issues to address and acknowledges that experts disagree about removal vs. in-place management of the high activity K-65 residues. The Corps has created a team that has examined the issues, held several meetings with the public and has prepared and awarded the scope of work for the Remedial Investigation and portions of the Feasibility Study. The Remedial Investigation is nearly complete and building 403 has been decontaminated and demolished. The site will continue to be maintained and monitored and findings will continue to be reported.

When the Corps studies are complete, we will know if any landfills can take the material, if disposal without treatment is possible, if chemical contamination exists on site, if surrounding landfills impact the subsurface and if chemical surveillance parameters and test frequency must be expanded. We will also know whether buildings must be chemically decontaminated, if surface soils must be remediated, if residues can be recycled and how quickly remediation must be started based on the safety and effective life of the current cap.

The current NFSS schedule includes completing the Remedial Investigation by April 2004. The Feasibility Study began in April 2001 and will be completed by December 2004. Dates for preparation of the Proposed Plan and the Record of Decision will be contingent upon RI/FS findings.

3. Do you have any plans for testing off-site? You had mentioned that you were confident that the Storage Site wasn't leaking, but do you have any plans to test the ditches or swales because contamination was found there in the 1980's?

We're testing all the ditches on the Niagara Falls property. We have also tested the Niagara Mohawk property and the former animal burial area on Vicinity Property G (on CWM property).

4. What sorts of radionuclides have you found on the site?

We've found mostly trace amounts of uranium. We know under the cap itself (we haven't tested that because it would be unsafe to breach the cap) that there's thorium, and radium (which generates radon). The three-foot deep clay cap retards radon percolation until the radon has disintegrated and tests on the surface indicate that it is below background.

5. How about cesium or plutonium?

We have found very small amount of cesium (well below action levels) but no plutonium.

6. Was any radioactive material, uranium or plutonium and such, transported to other sites and contaminated them? What about the groundwater below, since the pipes all have a common connection and since the water flows north to the lake?

The materials that came to NFSS remained on-site, but we have no indication that there is any plutonium. We study the groundwater and have done so for years without any problems – no contamination. Also, the information available to us indicates that no one uses well water. If you have any information about residents using well water, please contact us at 1-800-833-6390.

7. When you characterized the palletized waste, what did you find?

The palletized waste was material that was generated when the USDOE cleaned up Building 401. They took out some old lockers and maybe a beam or two that was contaminated. There were also items like Tyvek suits and gloves. What we found is 99% of the waste is just construction debris with very little or no radioactive contamination. The radiological waste was segregated so that any radiologically contaminated material would be sent for radiological disposal in Utah.

8. Is the Building 403 demolition debris being disposed of off-site or on-site?

Clean debris went to Erie, PA and debris that had any radioactivity above background has been set aside and will go to Envirocare, Utah.

9. Do you have reports from Bechtel National of what was put into the site?

These reports are easily accessible in the Administrative Record (located at the Lewiston Public Library, 305 South Eighth Street, Lewiston, NY; Youngstown Free Library, 240 Lockport St., Youngstown, NY; and the Buffalo District office of the U.S. Army Corps of Engineers at 1776 Niagara St., Buffalo, NY).

Rochester Burial Site

1. **There are rumors that there are contaminated carcasses buried at an area known as the Rochester Burial Site from radiological testing from the nearby university, but I don't remember any documentation. Have you been in contact with the University of Rochester as far as the source, as far as the testing? My guess is they would probably have documents detailing what was sent here.**

We performed geophysical studies on this property to detect whether there are any buried materials there, and trenched around all anomalies. There are no buried animals in these areas. The anomalies were soil fill, and these did not have radioactivity associated with them.

3. **I've also heard rumors about a train being buried there.**

We have done metal scans as part of our investigation. We have not picked up anything that sizeable and do not believe that a train is buried at the site.

Waste Containment Structure

1. **I'm concerned with the human side of maintaining the facility for a long duration. I have heard that there was a lapse in the contract for maintaining the facility resulting in cracking on the cover more than it should have. How can we guarantee for future generations that the site will be watered and taken care of?**

There has never been any lapse in the maintenance of the Niagara Falls Storage Site. Each year the radon emissions from the cap are measured and have remained below background.

2. **Will the geophysical study of the cap help determine the remaining lifetime of it?**

Yes, it will help determine both the lifetime of the cap and the base of the waste containment structure. It will also help determine the impact of potential threats to the cap.

3. **Will the geophysical means of investigation indicate to you the status of the cell that contains the radium?**

Yes. If there were a seismic event in the area it might crack the cell. The investigation found that there were no seismic faults in the area. It also told us that there was no pooled water underneath. What we know from testing the wells is that the cell has not been compromised.

4. **What was the determination of the cap life currently?**

The U.S. Department of Energy had actually said 25-50 years -- 25 years is up in 2011. We inspect the cap each day, checking for whether there are cracks and so on. The protectiveness is to make sure that the three feet of clay over the top has no cracks, that it is kept hydrated, that the grass over it is well maintained.

5. **What's your prediction right now for the remaining lifetime?**

Based on our work to date, it looks like several hundred thousand years.

6. **When they did the original cap they said up to fifty years, but they also said that if they added four more feet of clay and gravel on top of that they could extend it actually to 200 to 1,000 years. Did they not do that?**

The answer is no. Three feet of clay still exists, and more material was added onto the cap in 1991. The Department of Energy leveled the top of that three-foot cap, and put the material on

top of that, and then they put more clay on top of that. So it's really not three feet of clay on top of three feet of clay, although the high-activity radioactive waste is protected by that much. What the DOE was considering, was adding more and then putting stone coverage. That would be the permanent cap. However, due to the objections of the USEPA, DOE agreed not to make the cap permanent until all options were considered. The thing that poses the least risk to the public for the long-term and the short-term might be to leave it in place with a long-term cap, or it might be to dig it up and treat it. We have to look at all options and that's what the feasibility study can do for us. So we need this data from the remedial investigation first to properly evaluate the options during the feasibility study.

7. What would be the impact of the site to the area around it – either by opening it up or by a seismic activity in the faults located below?

We have a study underway to see what the impact would be if an earthquake opened the cell (which is very unlikely).

8. Is there a build-up of radon gas within the waste containment structure at the NFSS? Is the radon gas being released either intentionally through vents or through cap fissures?

Radon is slowly generated and begins to move through the 5-½ feet of soil covering the buried material. Radon has a half-life of 3.62 days. By the time it moves through all the soil to the surface, almost all of it is no longer radon – it is harmless.

Interviews with the Public/Public Health

The Corps is interviewing employees who worked at the Niagara Falls Storage Site prior to 1986 or people with knowledge of the site.

1. Do you know of any repercussions that might incur for those people who testify or give information that may have been classified, or they were told not to divulge. I've had some people say, "...well if they didn't use my name I would be glad to share the information." They didn't want to be implicated.

We wouldn't expect that because the Manhattan Project is long over. This is no longer classified information. The only reason that we don't get at the records that have been declassified is that it's a huge job and the records people at National Archives are not staffed for that. It's no longer classified and we would certainly not put pressure on the interviewees to answer any question that they didn't want to answer. We have told them that it's volunteer. Maybe someone will say, "...oh yeah I remember there was a drum burial area there and they planted trees over it." There are people who spent an awful lot of time there. They don't have to give a name, unless they want to. If they wanted to give their name, we could send them the results of the study.

2. Are you limiting your study of personnel who worked on the site to full-time employees?

We are not really limiting it at all; we're just saying anyone who worked on what we call the Niagara Falls Storage Site. We didn't say the whole LOOW site, but anyone who worked on NFSS at all, and would like to volunteer for an interview, is the way we have worded it.

3. Would you consider asking people who may have frequented the site? Maybe people who did some deliveries, maybe they would be able to shed some light on the activities at the site?

We were hoping they would come forward, but you raise an interesting question. What we would be kind of interested in (and perhaps they couldn't tell us much about the site), would be kids who used to play on the site.

4. When you conduct the interviews you might want to ask them if they know of any other workers you could interview.

Yes, this is part of each interview.

5. I've had the chance to be able to talk to families of workers who have died from cancer developed after they have done work on the block. I would recommend that if a health study were to be done that you find out the causes of deaths from the workers.

This is a good idea, but the Corps does not do health studies. We have no health personnel because we are not authorized by Congress to do health work. People with health concerns should contact the New York State Health Department at (518) 402-7550 or the Niagara County Health Department at (716) 439-7595. Additionally, you may call the U.S. Department of Labor's Energy Employees Occupational Illness Compensation Program at 1-866-888-3322. For additional questions, please call the Corps' Public Affairs Office at (716) 879-4110 or 1-800- 833-6390.

Castle Garden Dump

1. There is also another area that is called the Castle Garden Dump which contains Knolls Atomic Power Laboratory waste which also came from down state, which is in the same vicinity.

The alleged location of the Castle Garden Dump is in an area designated by DOE as vicinity property G. DOE did not certify that property as clean because the activities of the current owner prevented a complete investigation and remediation. USACE is currently evaluating that parcel to determine if remediation is necessary.

2. Are you looking for the Castle Garden Dump as well as the Rochester Burial Area?

Yes. We are performing a geophysical study to look for this area on Vicinity Property G.